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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,710	12/09/2003	Xian Yao	50547/CM/M277	5454
23363 7590 06/07/2007 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068			EXAMINER ZHU, WEIPING	
			ART UNIT 1742	PAPER NUMBER
			MAIL DATE 06/07/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/731,710	YAO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Weiping Zhu	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-34 and 36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-34 and 36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1-11, 13-34 and 36 are currently under examination wherein claims 1, 4, 5, 7-11, 15, 17, 21-26, 28 and 34 have been amended and claim 36 has been newly added in applicant's amendment filed on April 5, 2007.

### ***Objection to claims***

2. The added portions in the amended claims 1, 4, 5, 17, 21, 23 and 34 were not underlined as required, rendering it unclear what has been added in the amended claims.

### ***Status of Previous Rejections***

3. All the previous rejections of claims 1-11 and 13-33 under 35 U.S.C. 103(a) and the previous rejection of claim 34 under 35 U.S.C. 102(b) are maintained as follows:

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-11, 13-33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cho (US 4,534,934) as stated in the Office action of January 5, 2007.

With respect to the amended feature in claims 1, 21 and 23, Cho ('934) discloses that at least a portion of the discs is sandwiched between the diamond mass and the

inner peripheral surface of the shield cup (i.e. bottom, which constitutes part of the inner peripheral surface) (col. 5, lines 11-17 and lines 40-48).

With respect to the amended feature in claims 7-11, 15, 22, 24-26 and 28, the grounds of rejections of these claims set forth in the Office action of January 5, 2007 can still be properly applied.

With respect to the amended features in claims 4, 5 and 17, Cho ('934) does not disclose the claimed features. However it is well held that discovering an optimum value of a result-effective variable involves only routine skill in the art. In re Boesch, 617, F.2d 272, 205 USPQ 215 (CCPA 1980). In the instant case, the location of the metallic liner relative to the diamond mass, either disposing the cobalt discs on both sides of the diamond mass as in the configuration of Cho ('934) or forming an annular surface surrounding the ultra hard material as in the claimed configuration of the instant application, is a result-effective variable, because it would directly affect the infiltration orientation of cobalt into diamond mass as disclosed by Cho ('934) (col. 3, Line 65 to col. 4, line 2). See MPEP 2144.05 II. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the configuration in Cho ('934) in order to achieve desired properties of the diamond compact.

With respect to new claim 36, Cho ('934) does not teach the claimed feature. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to connect the ends of a thin metal strip by punching to form an annual surface as claimed. Furthermore see the rejection ground of claim 4 set forth above.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by Cho ('934) as stated in the Office action of January 5, 2007.

With respect to the amended feature in claim 34, see the rejection of the amended feature of claim 1 in the paragraph 4 above.

***Response to Arguments***

6. The applicant's arguments filed on March 12, 2007 have been fully considered but they are not persuasive.

First, the applicant argues that at least a portion of the discs of Cho ('934) is not sandwiched between the ultra hard material and the inner peripheral surface of the shield cup as required by the instant claims 1, 21, 23 and 34. In response, the examiner notes that the bottom of the shield cup of Cho ('934) constitute part of the inner peripheral surface of the shield cup. See the rejection of the amended feature of claims 1, 21, 23 and 34 above.

Second, the applicant argues that Cho ('934) does not teach the claimed feature of the amended claim 5. In response, see the rejection of the amended feature of claim 5 in the paragraph 4 above.

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Third, the applicant argues that Cho ('934) does not teach the claimed feature of the instant claim 17. In response, see the rejection of the amended claim 17 in the paragraph 4 above.

Fourth, the applicant argues that Cho ('934) does not teach the claimed feature of the instant claim 19. In response, see the rejection of the claim in the Office action of January 5, 2007 and the response to the second argument above.

Fifth, the applicant argues that Cho ('934) does not teach the claimed features of the instant claims 15, 21, 25 and 24, which are all related to eutectics and their melting temperatures. In response, examiner's position has already been stated clearly in the rejection of the respective claims in the Office action of January 5, 2007.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WZ

5/29/2007

  
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